

Serial No: 09/617,564
Docket No. GSH 08-886639
Amendment B Under Rule 116

REMARKS

The allowability of claims 9-14 and the indicated allowability of claims 4 and 6-8 are acknowledged with thanks.

Claim 5 has been amended to insert the term "pre-reset" to more specifically define the present invention. The foregoing amendment makes no claim changes which would require further search and consideration by the Examiner.

The Examiner rejected claims 1-3 and 5 under 35 USC § 102(b) as being anticipated by Yadid-Pecht (WO 93/14595). This rejection is respectfully traversed.

The present invention as defined by method claim 1 and apparatus claim 5 is directed to the resetting of an array of active pixel sensors in a novel manner in order to avoid the problem of latch-up caused by driving substantial amounts of charge at one time onto the array substrate. The array-reset cycle in accordance with the present invention includes two steps. In the initial step, the sensors are divided into groups of one or more sensors and a voltage is sequentially applied to each group, thereby causing a series of small charges to be driven onto the array substrate rather than a large charge. Once all of the sensors have been pre-set in this manner, the reset cycle is completed by applying a predetermined voltage to all of the sensors substantially simultaneously thereby assuring that all of the pixels are reset to substantially the same level. However, once again, this latter step only causes a small charge to be driven onto the array substrate since the pixels are already pre-set to a certain level by the pre-set voltage.

Yadid-Pecht is directed towards increasing the dynamic range of an image sensor. The array sensor element can be reset in one of two ways; first it can be reset in the normal manner by a regular reset pulse (RST) that occurs during the reset cycle; or second, the array sensor can

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be reset during the image capture cycle through a conditional reset pulse (CRST). The CRST is triggered when the pixel element has reached saturation, in this manner the Yadid-Pecht invention is capable of increasing the dynamic range of the image sensor by resetting pixels that have become saturated through over-exposure. As such, there are a number of differences between Yadid-Pecht and the present invention:

- 1) Yadid-Pecht does not teach a pre-reset of the sensors in the array during the reset cycle as required by independent claims 1 and 5.
- 2) Yadid-Pecht does not teach sequentially applying a pre-reset voltage as required by independent claims 1 and 5.
- 3) Yadid-Pecht does not teach applying a reset voltage to all of the sensors in the array substantially simultaneously as required by independent claims 1 and 5.
- 4) Yadid-Pecht teaches the issuance of a single reset signal during the reset cycle.
(Page 5, lines 31-39)
- 5) Yadid-Pecht further teaches a monitoring of each individual pixel and the subsequent issuance of a conditional reset signal when the oversaturation condition has been met (Page 7, lines 2-35). This is not taught for groups of pixels.
- 6) Yadid-Pecht makes no mention of the latch-up problem.

It is therefore respectfully submitted that Yadid-Pecht does not anticipate claims 1-3 and 5 and the Examiner is respectfully requested to withdraw his rejection of claims 1-3 and 5 under USC § 102(b).

It is therefore further respectfully submitted that dependent claims 4 and 6-8 in their present form are also allowable.

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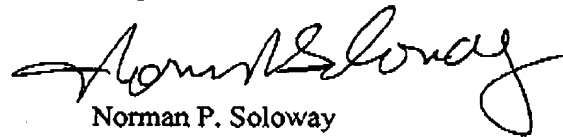
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In view of the above amendments and remarks, and having dealt with all of the matters raised by the Examiner, Applicant respectfully requests a Notice of Allowance be issued in this case. Early and favorable action are respectfully requested.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

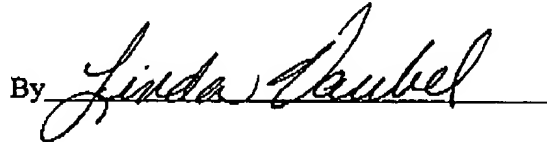
Respectfully submitted,



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CERTIFICATE OF TRANSMISSION VIA FACSIMILE

I hereby certify that this correspondence is being sent via facsimile to EXAMINER Brian C. Genco of the United States Patent and Trademark Office at facsimile number (703) 872-9306, on October 12, 2004 from Tucson, Arizona.

By 

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